July 7, 2017

Mr. James Cason
Monument Review, MS–1530,
U.S. Department of the Interior
1849 C Street NW.
Washington, DC 20240

Dear Mr. Cason,

On behalf of the American Association for the Advancement of Science (AAAS) and the Ecological Society of America (ESA), we are submitting these comments in response to the opportunity for public comments regarding the Department of the Interior's "Review of Certain National Monuments Established Since 1996" as published in the *Federal Register* (Docket No.: DOI–2017–0002).

Both AAAS and ESA are deeply concerned about the Department of the Interior's review of 22 national monuments and five marine national monuments, and urge recognition of their scientific, cultural and historical significance.

Our national monuments have been celebrated by U.S. presidents, starting with Theodore Roosevelt who used the Antiquities Act of 1906 to create the first national monuments. Fifteen presidents since, from both political parties, have used the Antiquities Act to designate national monuments. The American people treasure the resource of these shared public lands, as indicated by the 331 million visits to National Park Service sites in 2016.

Protecting all 27 monuments under review safeguards our nation's natural and cultural heritage. Designated monuments provide educational and recreational resources for the public and serve as important research sites for scientists. Across the National Park Service's 412 parks, national monuments and historic sites, researchers are conducting thousands of experiments and field studies – about 28,000 since 2000.[1] The research spans a range of scientific disciplines – geology, ecology, biodiversity, paleontology, archaeology, astronomy, wildlife and resource management and more. Highlighting the scientific value of even a few national monuments demonstrates the importance of these jewels of nature and the myriad ways they contribute to science. Each of the monuments offers unique contributions and we urge the Department of the Interior to carefully analyze these and other examples of the scientific, economic and cultural value of the monuments.

The Carrizo Plain National Monument preserves grasslands, Miocene fossil deposits, hundreds of Native American archaeological sites and a segment of the famous San Andreas Fault. The trace of the fault in this monument is an important area for geological

[1] http://e360.yale.edu/features/science_in_the_wild_legacy_of_the_us_national_park_system

study, contributing valuable information about threats from earthquakes along the San Andreas Fault in or near San Francisco, Los Angeles and many smaller communities. Significant cultural sites include prehistoric Native American campsites that range from as much as 10,000 years old to 19th century homesteads, some which were farmed and ranched in modern times. Many of the Carrizo sites are listed on the National Register of Historic Places.

The Cascade-Siskiyou National Monument in Oregon was established in 2000 in recognition of its remarkable ecology and to protect a diverse range of biological, geological, aquatic, archeological, and historic objects. This monument, the first to be designated specifically to protect biodiversity, preserves a complex, highly diverse landscape, a crucial watershed, and critical wildlife habitat. It has also been the site of important ecological studies on gradients in vegetation and forces driving long-term ecological change, including climate change, invasive species, and changes in fire pattern, frequency, and intensity.

Giant Sequoia National Monument protects 33 groves of these majestic trees, the world's largest trees. Sequoia and nearby Sequoia and Kings Canyon national parks serve as the site for 60-80 research projects a year and studies on air quality, drought and ecosystem disturbance have provided important information that helps us understand and manage the impacts of air pollution and climate change and restore ecosystems.[2]

The Grand Staircase Escalante National Monument, also known as the "Science monument," has been recognized for its scientific value from its establishment.[3] The diversity of its ecological species is higher than that of 83% of similarly-sized areas across the western United States.[4] A 2000-2003 study conducted at the monument discovered nearly four dozen species of bees new to science while a number of ongoing studies are tracking hummingbird migration, culturally important plants and how the public uses parks for recreation.[5]

Katahdin Woods and Waters National Monument is in the top 2% of wild and remote places in the eastern United States[6] and is home to a wide variety of plants and animals. Although it has been a national monument only since last year, the designation is already positively affecting the economy of the area, which has seen increased visitors and rising real estate sales as the result of protections for rivers that supply a booming recreational fishing industry and for woods that serve as popular hiking destinations.[7]

Mojave Trails National Monument protects valleys and mountains of geologic interest, including marine fossils dating from 550 million years ago and lava flows from North

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[2] https://www.nps.gov/seki/learn/scienceresearch.htm
[3] https://www.nps.gov/seki/learn/scienceresearch.htm
[4]http://www.csp-inc.org/wp-content/uploads/2017/06/NationalMonumentsAssessment.pdf
[5]https://www.blm.gov/programs/national-conservation-lands/utah/grand-staircase-escalante-national-monument/science-research
[6]http://www.csp-inc.org/wp-content/uploads/2017/06/NationalMonumentsAssessment.pdf
[7]http://www.pewtrusts.org/en/research-and-analysis/blogs/compass-points/2017/05/25/maines-new-national-monument-already-paying-dividends-for-local-communities

America's youngest volcano. The monument also protects ancient Native American trading routes and World War II-era military training camps and contains the last intact valley representing the West Mojave plant ecosystem.

Organ Mountains-Desert Peaks in southern New Mexico houses 46 species of plants and animals that are species of conservation concern. Of these, 17 are considered globally Critically Imperiled (6) or Imperiled (11) and the remainder are also vulnerable to effects of land use and climate change. The monument not only offers direct refuge for these species, but also serves as a buffer against further declines that can lead to listing under the Endangered Species Act. The monument is therefore a sound investment for the future of these species and their enjoyment by the American people.

Pacific Remote Islands Marine Monument includes seven national wildlife refuges within the largest marine conservation area in the world. This monument sustains terrestrial and marine ecosystems and protects fish and wildlife species that are rapidly vanishing due to climate change, habitat destruction and overfishing.[8] The monument also holds corals that are 5,000 years old, important nesting and resting habitat for seabirds, and refuges for species as diverse as the giant clam, sea turtles and a new-to-science species of beaked whale.

Papahānaumokuākea Marine National Monument is globally recognized for its biological and cultural significance, being the only mixed (natural and cultural) UNESCO World Heritage site in the United States and only one of 35 mixed sites in the world. Its extensive coral reefs provide critical protections for more than 7,000 marine species, including whales and sea turtles listed under the Endangered Species Act and the longest-living marine species in the world — black coral, which have been found to live longer than 4,500 years. Additionally, as ocean acidification, warming, and other impacts of climate change threaten marine ecosystems, the monument improves ocean resilience, helps the region's distinct physical and biological resources adapt, and creates a natural laboratory that allows scientists to monitor and explore the impacts of climate change on these fragile ecosystems.

The Río Grande del Norte National Monument and its extraordinary array of scientific resources offer opportunities to develop our understanding of the forces that shaped northern New Mexico, including its diverse ecological systems. The monument's canyons, volcanic cones, wild rivers, and native grasslands harbor vital wildlife habitat and unique geologic resources. It houses 18 species of plants and animals that are species of conservation concern. Of these, one is considered Globally Imperiled and the remainder vulnerable to effects of land use and climate change. The Río Grande del Norte offers direct refuge for these plants and animals, making its continued protection a buffer against further declines and a smart investment for the future of these species. The monument is also considered a crucial landscape for ensuring wildlife movement between adjoining mountain ranges. This protected landscape ensures healthy

[8]https://www.fws.gov/uploadedFiles/Region_1/NWRS/Zone_1/Pacific_Remote_Islands_Marine_National_Monument/Documents/PRIMNM%20brief(2).pdf

populations of wildlife – from mule deer to elk to pronghorn – and the species that depend on them. This landscape is also part of the Central Migratory Flyway, a critical pathway for dozens of migrant birds making the journey between summer and winter breeding grounds. The diversity of both ecosystems and species within the monument has been the subject of substantial scientific research and offers future opportunities for research.

The Sand to Snow National Monument in Southern California encompasses a highly diverse range of ecosystems, from lowland deserts to Joshua tree woodlands to alpine conifer forests to rivers, wetlands, and marshes. The area is one of the most biodiverse in the region, protecting a remarkable diversity of species, including twelve threatened or endangered animal species. The monument also includes over 100,000 acres of previously designated wilderness areas that preserve roadless, unfragmented habitat. The Sand to Snow Monument is also an important site for biological and ecological research, including studies on climate and land use change, fire management, and invasive species.

Undertaking a thorough review of national monuments requires input from scientific experts. AAAS and ESA request the Department of the Interior to ensure that careful analysis is forthcoming and transparent during the review process. We would welcome opportunities to incorporate scientific information and perspectives into the review of national monuments and stand ready to assist with that process.

The American Association for the Advancement of Science (AAAS) is the world's largest general scientific society and publisher of the journal *Science*, as well as *Science Translational Medicine*; *Science Signaling*; a digital, open-access journal, *Science Advances*; *Science Immunology*; and *Science Robotics*. AAAS was founded in 1848 and includes nearly 250 affiliated societies and academies of science, serving 10 million individuals. The nonprofit AAAS is fulfills its mission to "advance science and serve society" through initiatives in science policy, international programs, science education, public engagement, and more.

The Ecological Society of America, founded in 1915, is the world's largest community of professional ecologists and a trusted source of ecological knowledge, committed to advancing the understanding of life on Earth. The 10,000-member Society publishes five journals and a membership bulletin and broadly shares ecological information through policy, media outreach, and education initiatives. The Society's Annual Meeting attracts 4,000 attendees and features the most recent advances in ecological science.

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